

GENUS SCENEDESMUS MAYEN FROM MAHARASHTRA

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The present paper deals with the taxonomic consideration of 15 algal taxa of genus *Scenedesmus* (Chlorococcales). Of these 13 taxa are being recorded for the first time from Maharashtra and two taxa viz. *S. bijugatus* var. *curva* var. nov. and *S. obliquus* var. *major* var. nov. are new to Science.

Keywords : Chlorococcales; Fish ponds; Maharashtra; *Scenedesmus*.

Our knowledge concerning the occurrence and distribution of *Scenedesmus* in India is based on earlier work¹⁻¹⁸. The present paper records 15 taxa including 2 species and 13 varieties with illustration. All these taxa are being recorded for the first time from this region (Maharashtra, India). *S. bijugatus* var. *curva* var. nov. and *S. obliquus* var. *major* var. nov. are new to Science.

Monthly collections of algae were made from fish ponds at Anjale (20° 25' 30" N. lat. and 75° 45' 75" E. long.), district Jalgaon, Maharashtra, during January, 1999-December, 2000. Camera lucida drawings were made and a part of materials was preserved in 4% formalin. Identifications were mostly based on the monograph of Philipose⁶ and relevant research publications.

Systematic account - Class Chlorophyceae, Order - Chlorococcales, Family - Scenedesmaceae

Subfamily - Scenedesmoideae

Genus - *Scenedesmus* Meyen, 1829

Scenedesmus abundans (Kirchner) Chodat Fig. 1

Philipose, 1967, p. 278-279, f. 124 a-d.

Cells 6-10.9 x 2.1 - 3.9 μ m. Spine 4.7 - 9 μ m long (C.Nos. 107, 148, 184, 201, 204)

S. abundans var. *longicauda* Smith Fig. 2

R. J. Patel and George Isabella, 1969, 6 : 50, f. 7 GHJ.

Cells 7.8 - 9.7 x 3.1 - 3.9 μ m. Spines 6- 10 μ m long (C. Nos. 127, 204)

S. abundans var. *brevicauda* Smith Fig. 3

Philipose, 1947. p. 279, f. 184e

Cells 6.6 - 7.8 x 2.3 - 2.5 μ m. Spines 3.1 - 4.1 μ m long. (C.Nos. 148, 188)

S. armatus (Chodat) Smith var. *boglariensis* Fig. 4

R. J. Patel and George Isabella, 1989, 6 : 51 - 62, f. 4N

Cells 11-12.5 x 5 - 5.5 μ m. Spines 3 - 6.3 μ m long. (C. Nos. 142, 174, 205, 215)

S. bijugatus (Turpins) Kuetz. var. *flexuosus* Lemm. Fig. 5

Philipose, 1967, p. 253, f. 164 k.

Cell 9 - 14.9 x 3 - 3.5 μ m. (C. Nos. 113, 148)

S. bijugatus var. *minor* (Hang.) Smith Fig. 6

R. J. Patel and Isabella George, 1989, 6 : 49, f. 3D

Cells 7 - 7.4 x 3.2 - 3.9 μ m. (C.Nos. 179, 203)

S. bijugatus var. *alternans* (Reinsch) Hansgirg Fig. 7

Philipose, 1967, p. 254-256, f. 164 h - j

Cells 9.5 - 13.6 x 5.1 - 7.8 μ m (C.Nos. 106, 145)

S. bijugatus var. *curva* var. nov. Fig. 8

Colony 4 celled, slightly curved with the cells arranged in a alternating series. Cells oblong outside convex with smooth wall, ends rounded. Cells 8 - 9.3 x 3.1 - 3.5 μ m (C. Nos. 113, 148)

Difers from Var. *graevenitzii* of *S. bijugatus* (Bernard) Philipose in that colony curved, no syn-coenobium and cells are more oblong.

Coloniaes four cullulares, curvae, cellulae depositis in seriem alternatum. Cellulae oblongae, externis margine convexae, aequolites.

Differt a *S. bijugatus* var. *graevenitzli* eo quad coloniae curvae, non syn-coenobiae, cellulae valde oblongae.

S. bernardii Smith

Fig. 9

R. J. Patel and Isabella George, 1989, 6 : 47, f. 1 N, 2 E F.G.

Cells 11.3 - 27.2 x 2.4 - 5.4 μ m (C. Nos. 189, 203)

S. carinatus (Lemm.) Chodat var. *bicaudatus* Hortobagyi Fig. 10

R. J. Patel and Isabella Patel, 1989, 6 : 52, f. 4 v.

Cells 12 - 13.6 x 4 - 4.4 μ m. Spines 2.3 - 2.7 μ m long. (C. Nos. 13, 42)

S. denticulatus Lagerheim var. *linearis* Hansgirg Fig. 11

Philipose, 1967, p. 270, f. 176 d - e

Cells 10.7 - 13.6 x 4.9 x - 5.6 μ m (C. Nos. 179, 99)

S. quadricauda (Turpin) Breb. var. *bicaudatus* Hansgirg. Fig. 12

Philipose, 1967, p. 284, f. 18 K - p.

Cells 7 - 11.3 x 3.1 x 5.1 μ m. Spines 3.4 - 7.8 μ m long. (C.Nos. 145, 163, 203)

S. quadricauda var. *eualternans* Preschk Fig. 13

R. J. Patel and George Isabella 1989. 6 : 57 - 58, f. 9 F.H.

Cells 5.9 - 8.6 x 2.5 - 3.5 μ m. Spines 6 - 7 μ m long. (C.Nos. 151, 184, 206, 214)

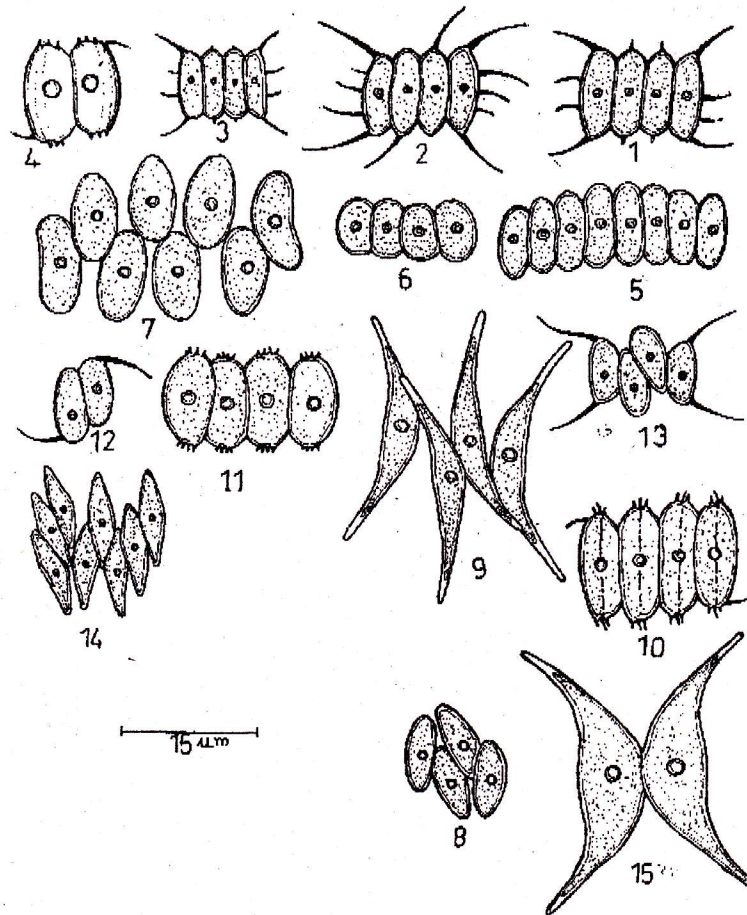
S. obliquus (Turpin) Kuetz var. *alternans* Christjur Fig. 14

R. J. Patel and George Isabella, 1989, 6 : 45, f. 1 BDH.

Cells 9.5 - 13.6 x 5.1 - 7.8 μ m (C.Nos. 106, 145)

S. obliquus var. *major* var. nov. Fig. 15

Colonies 2-4-8 celled, cells arranged in a linear series, cells fusiforms with slightly rounded ends, outside of the terminal cell concave or slightly convex. Cell wall smooth without spines. Cells 24.2 - 31 x 6 - 6.6 μ m. (C. Nos. 186, 188)



It differs from the type in having the subalternating arrangement and it is larger than recorded by Philipose (1967).

Coloniae 2-4-8 cellulares, cellulis depositis in lineares, cellulis gibbrior, apices rotundatis, externis cellulis convexae, margine aequalites.

Coloniae four cellularies, multomajores quam in typo, cellulis depositis in seriem lineares sub-alternantum.

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